SDMS US EPA REGION V -1

SOME IMAGES WITHIN THIS DOCUMENT MAY BE ILLEGIBLE DUE TO BAD SOURCE DOCUMENTS.

Volume 2
Sauget Area 2
Data Tables/Maps

ARCS Contract No. 68-W8-0086
Work Assignment No. 47-5N60

February 1998

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 5
Office of Superfund
77 West Jackson Boulevard
Chicago, Illinois 60604

ecology and environment, inc.
International Specialists in the Environment

33 North Dearborn Street, Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

SITE NARRATIVE

SITE Q

SITE NARRATIVE - SAUGET AREA 2 / Site Q			
Sample Locations	**Sampling Entity**	**Date Sampled**	**Data Source**
X101 - X111	IEPA	11/9 to 11/10/94	Memo to M. Rebbe (IDPH) from P. Takacs (IEPA) dated 12/30/94 Re: November Sampling with maps and data
QD1 - QD3	E & E	5/27/94	Removal Action Report for Sauget Area 2: Site Q prepared by Ecology and Environment 7/29/94
Pit #1, Pit #2	Riedel	9/89	Ltr. to Carol Ropski (EPA) from R. Burke (Eagle Marine) dated 1/19/95 Re: Response of Eagle Marine Industries to Information Request
B-1 through B-18	E & E	7/93	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
L-1, P-1	IEPA	10/17/72	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
P-2	IEPA	4/10/73	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
L-1, L-2	IEPA	10/28/81	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
L101 - L103	IEPA	9/29/83	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
Q201 - Q208	USEPA	1997	Preliminary Ecological Risk Assessment for Sauget Area 2: Site Q prepared by USEPA 1997

SITE NARRATIVE - SAUGET AREA 2 / Site Q

Nature and Extent of Contamination:

Southern Portion of Site Q (samples X101-X111 and Q203-Q208):
VOC concentrations in soils ranged from 0.008 to 0.29 mg/kg for 5 of the 11 samples analyzed for these parameters. BNA concentrations ranged from 0.38 to 1.9 mg/kg for 5 of the 11 samples collected. Pesticides were not detected in any of the 11 samples analyzed for these parameters. PCB concentrations ranged from 0.06 to 223 mg/kg for 14 of 17 samples collected.

The samples collected from the southern portion of Site Q are collected from depressional areas. These depressional areas have been identified by IEPA as apparent disposal areas and not all of the property south of the Alton & Southern Railroad has been sampled or characterized. The extent of surficial contamination in the southern portion of Site Q (south of the Alton & Southern Railroad) is fairly well defined laterally. However, there are no subsurface soils to help delineate the extent of vertical contamination.

Northern Portion of Site Q (all samples north of the Alton & Southern Railroad):
Waste samples (QD1 to QD3) collected in drums adjacent to the river at Site Q revealed a BNA concentration of 534 mg/kg in one sample, and PCB concentrations ranged from 180,000 to 260,000 mg/kg for the drum samples collected.

Surface water samples (P1 and P2) collected on Site Q did not contain appreciably high concentrations of metals. These samples were not analyzed for organic parameters. Pond sediments (Q201 and Q202) collected in the center of Site Q had PCB concentrations which ranged from 1.8 to 4.6 mg/kg for the two samples.

BNA concentrations in leachate samples (from samples L-1, L-2, L101, L102, and L103) were 5 μg/L for 2 of the 5 samples collected. The leachate samples were not analyzed for VOCs, and pesticides were not detected in any of the 5 samples. PCB concentrations ranged from 0.1 to 1.0 μg/L for 4 of the 5 samples collected. Metals, particularly As, Cr, Cu, Pb, and Zn, were elevated in a few of these samples.

VOC concentrations in the subsurface soils (from borings B-1 to B-18 and Pits 1 & 2) ranged from 0.02 to 5,855 mg/kg for 28 of the 36 samples collected. BNA concentrations ranged from 3.8 to 15,190 mg/kg for 34 of the 36 samples collected. Pesticide concentrations were 0.1 and 3.3 mg/kg for 2 of the 35 samples collected. PCB concentrations ranged from 0.002 to 16,000 mg/kg for 32 of the 36 samples collected. Dioxin (2,3,7,8-TCDD) concentrations in subsurface soil samples ranged from 0.0001 to 0.0033 mg/kg in two of the 35 samples analyzed for this parameter.

The extent of contamination in the southern portion of Site Q (south of the Alton & Southern Railroad) is fairly well defined laterally in and around the depressional areas identified by IEPA. However, there are no subsurface soils to help delineate the extent of vertical contamination. The extent of contamination in the central portion of Site Q is poorly defined. Wastes have been initially identified through sampling of drum samples and leachate but surface and subsurface soil samples are lacking in this area. The extent of contamination in the northern portion of Site Q, adjacent to Site R is well defined through multiple soil borings and subsurface soil samples.

Containment and Integrity (if known):

There is no known containment for site Q. Wastes are present at the surface in the southern portion of Site Q. The northern portion is covered primarily with cinders. Access to this site is unrestricted.

Other Comments: See the attached "Site Description" for more site details.

SITE DESCRIPTION - Sauget Area 2/Site Q

Site Q is an inactive waste disposal facility in Sauget and Cahokia. The facility, which was operated by Sauget & Company between 1966 and 1973, covers approximately 90 acres. The site is located on the east bank of the Mississippi River and is on the river side of the flood control levee. Most of Site Q is occupied by the Pillsbury Company, which operates a coal and grain unloading and transfer facility. The northern half of the site contains coal and cinders while the southern portion is unoccupied. A railroad spur divides the site and several ponds exist on site. Site Q was operated without a permit. The north side was registered with the IDPH in 1967, prior to formation of IEPA. The site is presently covered with black cinders which makes it highly permeable. Site Q is presently being leased to the Pillsbury Co. by its owners the Riverport Terminal and Fleeting Co.

The following is a chronology of events for site Q as discovered in the file information search:

1966

Disposal operations began in the northern most portion of site Q. A flyash pond operated by Union Electric existed at the area immediately south of the Monsanto Chemical dump (Site R).

1968 - 1972

Septic tank pumping and general municipal refuse were accepted at the site.

Early 1970s

IEPA inspections documented several violations of the Illinois Environmental Protection Act, including open burning, using unsuitable cover materials (cinders and flyash), and disposal of liquid chemical wastes.

April 1971

IEPA filed a complaint against Sauget & Co.. The company was ordered to cease open burning, using flyash and cinders for cover materials, and accepting liquid chemical wastes.

May 1971

The Illinois Pollution Control Board issued an order to Sauget & Company to discontinue the use of cinders and flyash for final cover.

September 1971 - August 1971

IEPA conducted monthly inspections at the site. During this time they cited inadequate daily and final cover, and the disposal of liquid wastes.

July 1972

An IEPA inspection revealed a smoldering underground fire.

August 1972

Leach tests of the cinder cover was performed by IEPA. The material was found to be inadequate in terms of permeability of material and its high metal content.

October 1972

The fire which began in July 1972, finally went out. The fire smouldered continuously from July to October despite repeated attempts to extinguish it.

1972

Sauget & Company applied for a permit to extend the existing landfill to an area south ofthe Alton & Southern Railroad. IEPA denied all permit applications to the southern site extension. Approval was never issued by IEPA, however Sauget & Company used this area for disposal.

October 1972

IEPA collected two soil samples from Site Q. One was from ponded water, the other was a leachate sample. Results indicated the presence of metals including lead andmercury.

January 1973

Groundwater samples were collected from two monitoring wells.

March 1973

Mississippi River flood waters inundated Site Q. The flood conditions lasted until May 1973.

April 1973

Samples of ponded water collected by IEPA on two separate occasions.

November 1973

The Illinois Secretary of State revoked the authority of Sauget & Co. to transact business in the State of Illinois.

January 1975

Disposal activities were completed at Site Q by this time.

September 1976

An IEPA inspection of Site Q revealed and underground fire at the site. The fire smoldered for approximately 1 month.

May 1977

The Illinois Pollution Control Board filed suit #77-84 against Sauget & Co. and Paul Sauget. A monetary penalty was invoked and Sauget & Co. was ordered to put a two foot layer of suitable cover material to cap the entire site by February 1981.

May 1980

IEPA was notified that drums and chemical wastes were uncovered during excavation along a railroad spur.

May 1981

In response to Sauget's failure to comply with order #77-84 and alleging several violations of the Illinois Environmental Protection Act, the Illinois Attorney General filed suit against Sauget & Co.

October 1981

IEPA sampled leachate seeps from the banks of the river. Results indicated high levels of organic contaminants.

June 1983

A subsurface investigation at Site Q was initiated by a USEPA FIT Contractor. Over half of the organics analyzed for in the samples were detected including 2,3,7,8-TCDD in two samples. A geophysical investigation was completed by Technos of Miami, Florida.

September 1983

IEPA took more leachate seep samples from the bank of the river. The results weresimilar to the results in October 1981.

March 1985

The Illinois Attorney Generals' office reentered a suit against Sauget & Company. TheIAG's office ordered final cover to be applied at the site and also requested a civil penalty.

March 1987

E & E took nine samples from eight monitoring wells at site Q. Monitoring wells were also sampled in area adjacent to site Q.

Subsequent to 1987, several investigative and significant environmental events have taken place. In 1992, Monsanto conducted sampling at the south end of Site R, on the Site Q property. In 1994, most of site Q was innundated by the Mississippi River flood waters. IEPA and USEPA conducted sampling in the depressional areas at the southern portion of Site Q in 1994 and 1997, respectively. In addition to sampling activities, construction of offices and storeage areas for a landscaping firm has taken place in the northern and central portions of Site Q.

(Note: All information above was excerpted from a document with the heading of "Background" which was taken off microfiche from the IEPA file records)

SAUGET Analytical Data
Site Q

SURFACE SOIL SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by IEPA (11/9-10/94)

	Sample Number	X101	X102	X103	X104	X105	X106	X107	X108	X109	X110
VOC											
Chloromethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride		15	6 J	ND	ND	5 J	ND	ND	6 J	ND	12 J
Acetone		ND	ND	ND	ND	27	ND	ND	ND	ND	ND
Carbon Disulfide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane		24	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)		240	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform		ND	10 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		10 J	ND	ND	ND	ND	18	ND	ND	ND	ND
Carbon Tetrachloride		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene		5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene		ND	ND	ND	ND	5 J	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		8 J	ND	ND	ND	14	ND	ND	ND	ND	8 J
Chlorobenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes		ND	ND	ND	ND	14	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

J - Estimated value

ND - Not detected

SAUGET Analytical Data
Site Q

SURFACE SOIL SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by IEPA (11/9-10/94)

Sample Number	X101	X102	X103	X104	X105	X106	X107	X108	X109	X110
BNAs										
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	270 J	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	280 J	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	210 J	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	270 J	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	160 J	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphathalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site Q

SURFACE SOIL SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by IEPA (11/9-10/94)

	Sample Number		X111	Maximum Detected
BNAs				
Phenol			ND	ND
bis(2-Chloroethyl)ether			ND	ND
2-Chlorophenol			ND	ND
1,3-Dichlorobenzene			ND	ND
1,4-Dichlorobenzene			ND	ND
Benzyl Alcohol			ND	ND
1,2-Dichlorobenzene			ND	ND
2-Methylphenol			ND	**270 J**
bis(2-Chloroisopropyl)ether			ND	ND
4-Methylphenol			ND	**280 J**
N-Nitroso-n-Dipropylamine			ND	ND
Hexachloroethane			ND	ND
Nitrobenzene			ND	ND
Isophorone			ND	**210 J**
2-Nitrophenol			ND	ND
2,4-Dimethylphenol			ND	**270 J**
Benzoic Acid			ND	ND
bis-(2-Chloroethoxy)methane			ND	ND
2,4-Dichlorophenol			ND	ND
1,2,4-Trichlorophenol			ND	ND
Naphthalene			ND	ND
4-Chloroaniline			ND	ND
Hexachlorobutadiene			ND	**160 J**
4-Chloro-3-methylphenol			ND	ND
2-Methylnaphathalene			ND	ND
Hexachlorocyclopentadiene			ND	ND
2,4,6-Trichlorophenol			ND	ND
2,4,5-Trichlorophenol			ND	ND
2-Chloronaphthalene			ND	ND
2-Nitroaniline			ND	ND
Dimethyl Phthalate			ND	ND
Acenaphthylene			ND	ND
3-Nitroaniline			ND	ND
Acenaphthene			ND	ND

µg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected.

SAUGET Analytical Data
Site Q

SURFACE SOIL SAMPLES
Pesticides/PCBs/Herbicides (µg/kg)
Collected by IEPA (11/9-10/94)

	Sample Number	X101	X102	X103	X104	X105	X106	X107	X108	X109	X110
Pesticides/PCBs											
Alpha-BHC		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Beta-BHC		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Delta-BHC		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Heptachlor		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Aldrin		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Endosulfan I		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Dieldrin		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
4,4'-DDE		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Endrin		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Endosulfan II		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
4,4'-DDD		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Endosulfan sulfate		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
4,4'-DDT		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Methoxychlor		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Endrin Ketone		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Chlordane		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Toxaphene		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Aroclor-1221		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Aroclor-1232		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND	DM	DM	DM
Aroclor-1248		ND	ND	500	ND	ND	ND	4800 P	DM	DM	DM
Aroclor-1254		110000 P	1100 P	2300	14000 P	22000	1700 P	11000 E	DM	DM	DM
Aroclor-1260		83000	460	1500	12000	6500 P	2300	8800 PE	DM	DM	DM

µg/kg - Micrograms per kilogram

DM - Data missing

E - Estimated value Concentration detected exceeds the calibrated range

P - Greater than 25% differnce exists for the detected concentrations between the two GC columns The lower of the results is reported

SAUGET Analytical Data
Site Q

SURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by IEPA (11/9-10/94)

Sample Number	X101	X102	X103	X104	X105	X106	X107	X108	X109	X110
Total Metals										
Aluminum	10700 *	5710 *	3240 *	3500 *	237 *	3250 *	5630 *	3330 *	5590 *	1030 *
Antimony	157 N*	ND	17900 N*	ND	ND	ND	ND	ND	ND	47.6 N*
Arsenic	13.7 N*S	1.4 BN*S	216 N*S	1.6 BNW*	0.47 BN*	0.93 BN*	2.7 N*S	3.3 N*S	3 N*S	19.3 N*S
Barium	1220 N*	141 N*	1680 N*	63.3 N*	188 N*	3620 N*	103 N*	150 N*	123 N*	1120 N*
Beryllium	0.54 B	0.49 B	0.3 B	0.31 B	ND	ND	0.44 B	ND	0.47 B	ND
Cadmium	2260 *	3.9 *	8.7	1.1 B*	1.4 *	1.5 *	28.7 *	6 *	1.9 *	1.2 B
Calcium	13400	18000	10300	152000	456 B	1320	4360	2090	9070	413 B
Chromium	3650 *	12.1 *	142 *	5.8 *	3 *	7 *	287 *	43.9 *	10.4 *	40.8
Cobalt	18.7	7.4 B	13.3 B	2.9 B	ND	3.7 B	8.2 B	5.7 B	8 B	6.9 B
Copper	324	18.7	1630	7.6	2.8 B	9	32.8	166	21.6	226
Iron	83500 *	11600 *	80500 *	5450 *	469 *	2170 *	22500 *	7920 *	10900 *	65200 *
Lead	7690	152 *	195000 *	18100 *	62.2 *	41.1	191 *	571 *	52 *	5320 *
Magnesium	2940	4250	1350	4600	56.9 B	2350	2040	1230 B	2830	89.9 B
Manganese	606	372	1270	275	4	62.3	334	133	455	152
Mercury	4.9	ND	0.25	ND	ND	0.14	ND	0.3	ND	0.64
Nickel	153 N*	17.6 N*	101 N*	8.1 BN*	ND	6.5 BN*	23.1 N*	18.7 N*	18.9 N*	371 N*
Potassium	1310 B	1030 B	446 B	604 B	ND	301 B	898 B	598 B	940 B	2430
Selenium	59.9 *S	ND	ND	ND	2.1 B*	ND	1.5 *S	0.33 B*W	ND	ND
Silver	3.3 N	ND	30.2 N	ND	ND	ND	ND	ND	ND	28.9 N
Sodium	268 B	ND	ND	810 B	ND	ND	ND	ND	ND	476 B
Thallium	ND	ND	0.89 B	ND	ND	ND	ND	ND	ND	ND
Vanadium	7.3 B	16	ND	7.6 B	ND	10 B	13.8	9.1 B	13.6 B	ND
Zinc	7290 *	689	9520 *	95 *	10.8 *	66.1 *	2010 *	338 *	206 *	120 *
Cyanide	3.3	ND	2.8	ND	ND	ND	ND	ND	ND	ND
Sulfate	82.4	ND	55.9	ND	907	ND	76.1	170	4780	901
Sulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

B - Estimated value The value is less than the CRDL, but greater than the instrument detection limit

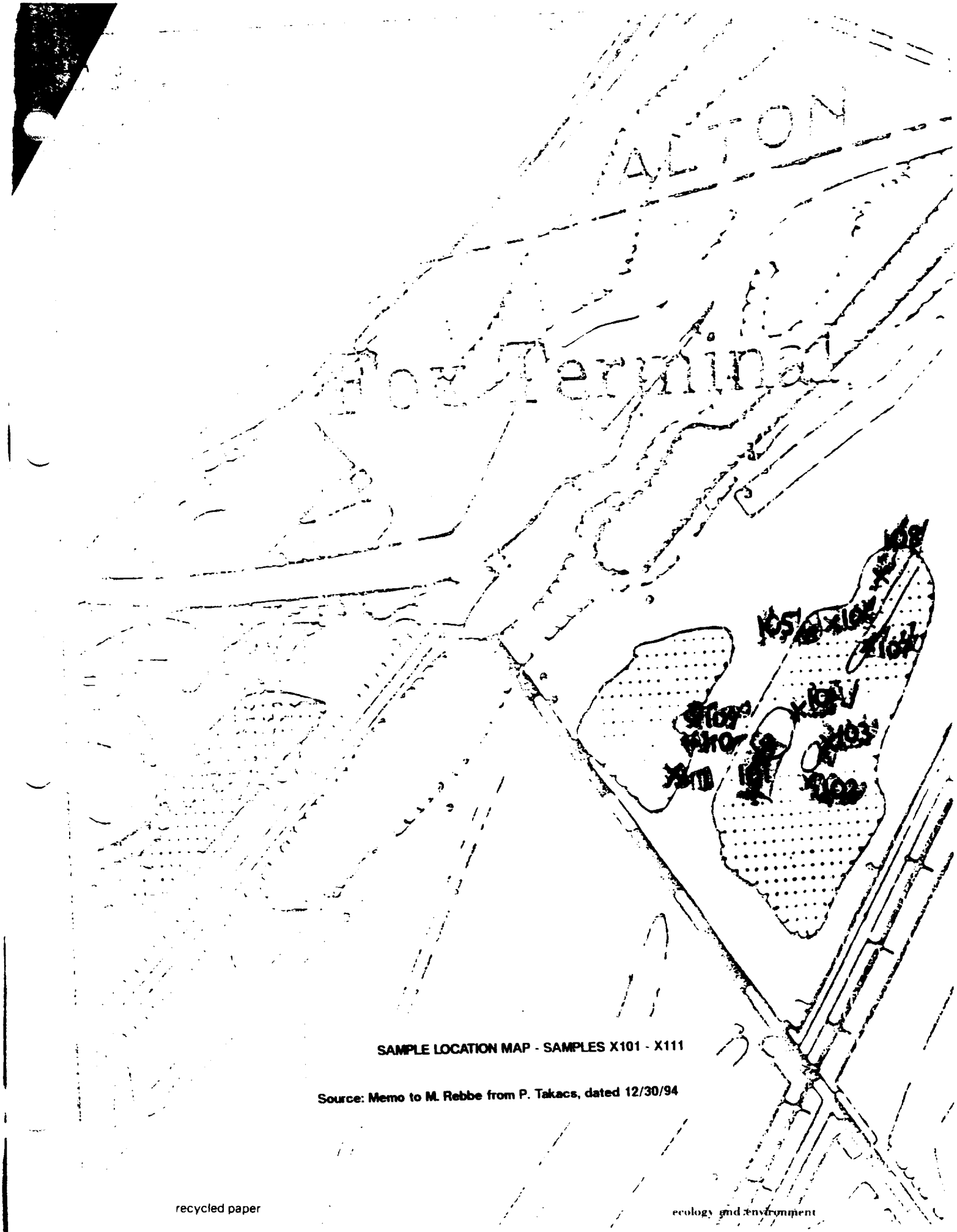
N - Laboratory spike recoveries were outside QC protocols

ND - Not detected

S - Analysis performed using the method of standard additions

W - Laboratory post-digestion spike for furnace AA analysis exceeds QC limits

* - Laboratory duplicate analysis not within control limits



SAMPLE LOCATION MAP - SAMPLES X101 - X111

Source: Memo to M. Rebbe from P. Takacs, dated 12/30/94

SAUGET Analytical Data
Site Q

SOIL SAMPLES
Semi-Volatiles (µg/kg)
Collected by E&E (5/27/94)

	Sample Number	QD1	QD2	QD3	Maximum
Semi-Volatiles					**Concentration**
Phenol		**69000 JD**	ND	ND	**69000 JD**
2-Chlorophenol		**67000 JD**	ND	ND	**67000 JD**
1,4-Dichlorobenzene		**110000 JD**	ND	ND	**110000 JD**
N-Nitroso-di-n-propylamine		**42000 JD**	ND	ND	**42000 JD**
1,2,4-Trichlorobenzene		**51000 JD**	ND	ND	**51000 JD**
4-Chloro-3-Methylphenol		**67000 JD**	ND	ND	**67000 JD**
Acenaphthene		**44000 JD**	ND	ND	**44000 JD**
4-Nitrophenol		**24000 JD**	ND	ND	**24000 JD**
2,4-Dinitrotoluene		**40000 JD**	ND	ND	**40000 JD**
Pentachlorophenol		**20000 JD**	ND	ND	**20000 JD**

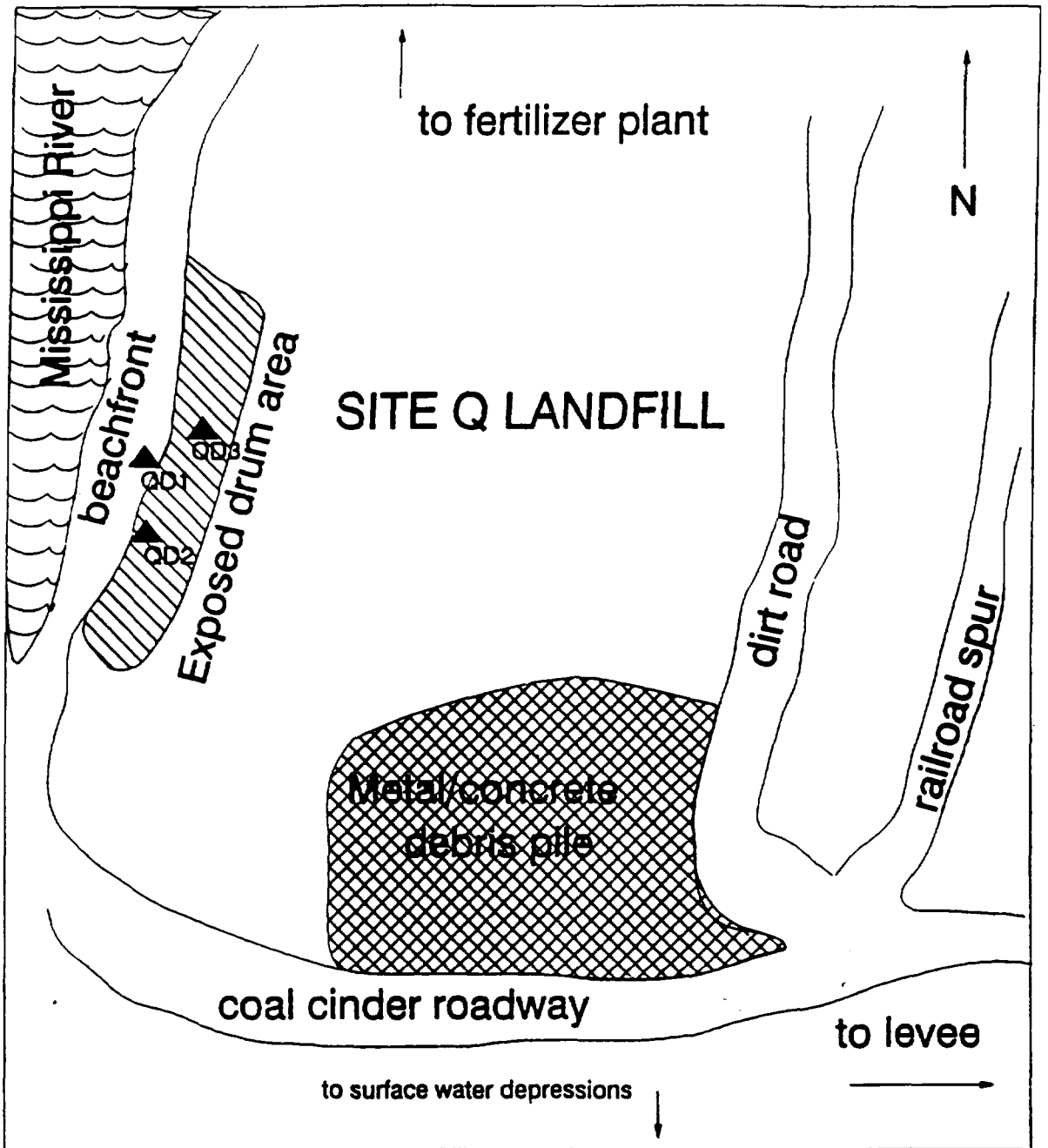
µg/kg - Micrograms per kilogram
D - Compound concentration is at a secondary dilution factor
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site Q

SOIL SAMPLES
TCLP Semi-Volatiles (µg/L) and PCBs (mg/kg)
Collected by E&E (5/27/94)

	Sample Number	QD1	QD2	QD3	Maximum
TCLP and PCB					Concentration
2,4,6-Trichlorophenol		ND	6.3 J	ND	6.3 J
Pentachlorophenol		ND	16 J	ND	16 J
PCB - 1260 (mg/kg)		180000	260000	230000	260000

µg/L - Micrograms per liter
mg/kg - Milligrams per kilogram
J - estimated value
PCBs - polychlorinated biphenyls



KEY

▲ Drum Sample

ecology and environment, inc.
Technical Assistance Team
Region V
111 West Jackson Blvd.
Chicago, IL 60604

TITLE	FIGURE #
SAMPLE LOCATION MAP	3
SITE	SCALE
SAUGET AREA 2 - SITE Q	NOT TO SCALE
CITY / STATE	PAN
SAUGET / ILLINOIS	EIL0837SAA

SAUGET Analytical Data
Site Q

SOIL SAMPLES (Sampling date not known)
Volatile Organic Compounds (µg/kg)
Collected by Riedel Industrial Waste Management, Inc.

	Sample Number	PIT #2	Maximum Concentration
VOC			
Chloromethane		ND	ND
Bromomethane		ND	ND
Vinyl chloride		ND	ND
Chloroethane		ND	ND
Methylene chloride		ND	ND
Carbon Disulfide		ND	ND
1,1-Dichloroethene		ND	ND
1,1-Dichloroethane		ND	ND
1,2-Dichloroethene (total)		ND	ND
Chloroform		69000	69000
1,2-Dichloroethane		ND	ND
2-Butanone		30200	30200
1,1,1-Trichloroethane		ND	ND
Carbon Tetrachloride		ND	ND
Vinyl Acetate		ND	ND
Bromodichloromethane		ND	ND
1,2-Dichloropropane		ND	ND
cis-1,3-Dichloropropene		ND	ND
Trichloroethene		ND	ND
Dibromochloromethane		ND	ND
1,1,2-Trichloroethane		ND	ND
Benzene		ND	ND
trans-1,3-Dichloropropene		ND	ND
Bromoform		ND	ND
4-Methyl-2-pentanone		ND	ND
2-Hexanone		ND	ND
Tetrachloroethene		ND	ND
1,1,2,2-Tetrachloroethane		ND	ND
Toluene		5500	5500
Chlorobenzene		15700	15700
Ethylbenzene		2780	2780
Styrene		ND	ND
Total Xylenes		6300	6300

µg/kg - Micrograms per kilogram
ND - Not detected

SAUGET Analytical Data
Site Q

SOIL SAMPLES (Sampling date not known)
Base Neutrals/Acids (µg/kg)
Collected by Riedel Industrial Waste Management, Inc.

	Sample Number	PIT #1	Maximum Concentration
BNAs			
2,4-Dinitrophenol		ND	ND
4-Nitrophenol		ND	ND
Dibenzofuran		ND	ND
2,4-Dinitrotoluene		ND	ND
2,6-Dinitrotoluene		ND	ND
Diethylphthalate		ND	ND
4-Chlorophenyl-Phenylether		ND	ND
Fluorene		ND	ND
4-Nitroaniline		ND	ND
4,6-Dinitro-2-methylphenol		ND	ND
N-Nitrosodiphenylamine		ND	ND
4-Bromophenyl-phenylether		ND	ND
Hexachlorobenzene		ND	ND
Pentachlorophenol		ND	ND
Phenanthrene		ND	ND
Anthracene		ND	ND
Di-n-butly phthalate		ND	ND
Fluoranthene		ND	ND
Pyrene		ND	ND
Butyl Benzyl phthalate		ND	ND
3,3'-Dichlorobenzidine		ND	ND
Benzo (a)anthracene		ND	ND
bis(2-ethylhexyl)phthalate		ND	ND
Chrysene		ND	ND
Di-n-octyl phthalate		ND	ND
Benzo(b)fluoranthene		ND	ND
Benzo(k)fluoranthene		ND	ND
Benzo (a)pyrene		ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND
Benzo(g,h,i)perylene		ND	ND
Dibenzo(a,h)anthracene		ND	ND

µg/kg - Micrograms per kilogram
ND - Not detected

SAUGET Analytical Data
Site Q

SOIL SAMPLES
Organics (µg/kg)
Collected by Ecology & Environment, Inc. (7/83)

	Sample Number	B1A	B1B	B2A	B2B	B3A	B3B	B4A	B4B
	Sample Depth(ft)	10 - 11 5	17 5 - 19	13 5 - 15 5	17 - 19	10 - 12	13 5 - 15 5	10 - 12	13 5 - 15 5
Organics									
2, 3, 7, 8-TCDD		ND	ND	ND	ND	ND	ND	ND	3.31
2, 4, 6-trichlorophenol		2500	170000	22000	520	1400	1500	ND	94000
2-chlorophenol		24000	65000	800	ND	1500	LT	57000	360000
2, 4-dichlorophenol		66000	3100000	31000	1700	760	4500	ND	370000
2, 4-dimethylphenol		ND	ND	500	ND	ND	ND	ND	72000
4, 6-dinitro-2-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND
pentachlorophenol		ND	86000	5400	LT	ND	11000	ND	100000
phenol		24000	55000	45000	4400	3200	100000	98000	88000
2-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND
4-methylphenol		ND	ND	LT	ND	560	LT	ND	330000
2, 4, 5-trichlorophenol		ND	ND	ND	LT	ND	ND	ND	ND
acenaphthene		ND	ND	1200	2800	ND	ND	ND	ND
1, 2, 4-trichlorobenzene		ND	ND	ND	480	ND	ND	LT	100000
1, 2-dichlorobenzene		LT	ND	LT	ND	ND	LT	ND	20000
1, 4-dichlorobenzene		ND	ND	1800	720	LT	760	LT	86000
fluoranthene		ND	ND	ND	1200	ND	ND	ND	LT
isophorone		ND	ND	ND	ND	ND	ND	ND	ND
naphthalene		ND	ND	11000	8300	ND	ND	ND	LT
nitrobenzene		ND	8800	400	ND	ND	ND	ND	56000
N-nitrosodiphenylamine		ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate		ND	ND	ND	LT	ND	ND	ND	62000
butyl benzyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND
di-n-butyl phthalate		ND	ND	ND	ND	ND	ND	ND	LT
di-n-octyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND
diethyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND
benzo(a)anthracene		ND	ND	ND	ND	ND	ND	ND	ND
benzo(a)pyrene		ND	ND	ND	ND	ND	ND	ND	ND
benzo(b)fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND
benzo(k)fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND
chrysene		ND	ND	ND	ND	ND	ND	ND	ND
anthracene		ND	ND	ND	400	ND	ND	ND	ND
benzo(ghi)perylene		ND	ND	ND	ND	ND	ND	ND	ND
fluorene		ND	ND	600	2000	ND	ND	ND	ND
phenanthrene		ND	ND	1000	2700	ND	ND	ND	LT
dibenzo(a,h)anthracene		ND	ND	ND	ND	ND	ND	ND	ND
indeno(1,2,3-cd)pyrene		ND	ND	ND	ND	ND	ND	ND	ND
pyrene		ND	ND	LT	LT	ND	ND	ND	LT
aniline		ND	ND	ND	ND	ND	ND	ND	ND
4-chloroaniline		ND	ND	LT	ND	ND	ND	ND	ND
dibenzofuran		ND	ND	1000	3000	ND	ND	ND	ND
2-methylnaphthalene		ND	ND	2000	2300	ND	ND	ND	ND
3-nitroaniline		ND	ND	4600	ND	ND	ND	ND	ND
benzene		ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
ND - Not Detected
LT - Present, but lower than the detection limit for low hazard analyses

SAUGET Analytical Data
Site Q

SOIL SAMPLES
Organics (µg/kg)
Collected by Ecology & Environment, Inc. (7/83)

	Sample Number	B5A	B5B	B6A	B6B	B7A	B7B	B8A	B8B
	Sample Depth(ft)	13 5-15 5	17 0-19 0	10 0-12 0	13 5-15 5	10 0-12 0	13 5-15 5	13 5-15 5	17 5-19 5
Organics									
2, 3, 7, 8-TCDD		ND	ND	ND	ND	ND	ND	ND	0.11
2, 4, 6-trichlorophenol		130000	26000	2700	4800	2700	ND	480000	10000
2-chlorophenol		31000	8400	1600	1600	LT	ND	ND	ND
2, 4-dichlorophenol		560000	260000	17000	15000	6100	ND	1500000	64000
2, 4-dimethylphenol		ND	ND	2000	ND	ND	ND	ND	ND
4, 6-dinitro-2-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND
pentachlorophenol		ND	ND	ND	16000	25000	31000	ND	ND
phenol		140000	250000	45000	11000	1800	ND	ND	ND
2-methylphenol		ND	ND	1400	600	ND	ND	ND	ND
4-methylphenol		ND	36000	7000	1400	ND	ND	ND	ND
2, 4, 5-trichlorophenol		ND	ND	ND	ND	ND	ND	ND	ND
acenaphthene		ND	ND	ND	ND	ND	ND	ND	ND
1, 2, 4-trichlorobenzene		86000	13000	ND	ND	ND	ND	120000	ND
1, 2-dichlorobenzene		100000	28000	LT	ND	ND	ND	180000	ND
1, 4-dichlorobenzene		ND	ND	3100	800	ND	ND	LT	ND
fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND
isophorone		ND	ND	ND	ND	ND	ND	ND	ND
naphthalene		ND	LT	800	LT	ND	ND	380000	LT
nitrobenzene		27000	11000	LT	ND	ND	ND	52000	ND
N-nitrosodiphenylamine		ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate		ND	ND	ND	ND	ND	ND	ND	ND
butyl benzyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND
di-n-butyl phthalate		ND	ND	400	LT	ND	ND	ND	ND
di-n-octyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND
diethyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND
benzo(a)anthracene		ND	ND	ND	ND	ND	ND	ND	ND
benzo(a)pyrene		ND	ND	ND	ND	ND	LT	ND	ND
benzo(b)fluoranthene		ND	ND	ND	ND	ND	LT	ND	ND
benzo(k)fluoranthene		ND	ND	ND	ND	ND	LT	ND	ND
chrysene		ND	ND	ND	ND	ND	LT	ND	ND
anthracene		ND	ND	ND	ND	ND	ND	ND	ND
benzo(ghi)perylene		ND	ND	ND	ND	ND	ND	ND	ND
fluorene		ND	ND	ND	ND	ND	ND	ND	ND
phenanthrene		ND	ND	ND	ND	ND	ND	ND	ND
dibenzo(a,h)anthracene		ND	ND	ND	ND	ND	ND	ND	ND
indeno(1,2,3-cd)pyrene		ND	ND	ND	ND	ND	ND	ND	ND
pyrene		ND	ND	ND	ND	ND	ND	ND	ND
aniline		ND	ND	ND	ND	ND	ND	ND	ND
4-chloroaniline		ND	ND	9000	ND	ND	ND	ND	ND
dibenzofuran		ND	ND	ND	ND	ND	ND	ND	ND
2-methylnaphthalene		ND	ND	ND	ND	ND	ND	ND	ND
3-nitroaniline		ND	ND	ND	ND	ND	ND	ND	ND
benzene		ND	ND	ND	ND	ND	3.2	LM	ND

µg/kg - Micrograms per kilogram
ND - Not Detected
LT - Present, but lower than the detection limit for low hazard analyses
LM - Present, but lower than the detection limit for medium hazard analyses

SAUGET Analytical Data
Site Q

SOIL SAMPLES
Organics (µg/kg)
Collected by Ecology & Environment, Inc. (7/83)

	Sample Number	B9A	B9B	B10A	B10B	B11A	B11B	B12A	B12B
	Sample Depth(ft)	15 0-17 0	17 0-19 0	17 0-19 0	19 0-21 0	17 0-19 0	19 0-21 0	17 0-19 0	19 0-21 0
Organics									
2, 3, 7, 8-TCDD		ND	ND	P	ND	P	P	ND	ND
2, 4, 6-trichlorophenol		LT	600	48000	640	ND	ND	4400	9400
2-chlorophenol		640	1100	1700	LT	ND	ND	1200	520
2, 4-dichlorophenol		7400	9800	170000	9600	3200	20000	8800	4200
2, 4-dimethylphenol		ND	LT	ND	ND	ND	ND	ND	ND
4, 6-dinitro-2-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND
pentachlorophenol		ND	4800	ND	2200	ND	ND	24000	920
phenol		7500	14000	32000	11000	6200	37000	17000	7500
2-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND
4-methylphenol		1400	2300	2700	ND	ND	ND	1000	720
2, 4, 5-trichlorophenol		ND	ND	ND	ND	ND	ND	ND	ND
acenaphthene		ND	ND	ND	ND	ND	ND	ND	ND
1, 2, 4-trichlorobenzene		ND	ND	11000	ND	ND	ND	520	3600
1, 2-dichlorobenzene		ND	ND	11000	ND	LT	ND	ND	800
1, 4-dichlorobenzene		ND	LT	27000	ND	LT	ND	ND	1000
fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND
isophorone		ND	ND	ND	ND	17000	LT	ND	720
naphthalene		ND	ND	6500	ND	72000	35000	LT	640
nitrobenzene		ND	ND	ND	ND	ND	ND	ND	ND
N-nitrosodiphenylamine		ND	ND	ND	ND	ND	ND	LT	ND
bis(2-ethylhexyl)phthalate		440	ND	ND	ND	52000	34000	440	ND
butyl benzyl phthalate		ND	ND	ND	ND	LT	ND	ND	ND
di-n-butyl phthalate		ND	1500	LT	ND	23000	LT	ND	ND
di-n-octyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND
diethyl phthalate		LT	840	ND	ND	ND	ND	ND	ND
benzo(a)anthracene		ND	ND	ND	ND	ND	ND	ND	ND
benzo(a)pyrene		ND	ND	ND	ND	ND	ND	ND	ND
benzo(b)fluoranthene		ND	ND	ND	ND	ND	ND	ND	1000
benzo(k)fluoranthene		ND	ND	ND	ND	ND	ND	ND	1000
chrysene		ND	ND	ND	ND	6400	ND	ND	ND
anthracene		ND	ND	ND	ND	ND	ND	ND	ND
benzo(ghi)perylene		ND	ND	ND	ND	ND	ND	ND	ND
fluorene		ND	ND	ND	ND	ND	ND	ND	ND
phenanthrene		ND	ND	ND	ND	5200	ND	ND	ND
dibenzo(a,h)anthracene		ND	ND	ND	ND	ND	ND	ND	ND
indeno(1,2,3-cd)pyrene		ND	ND	ND	ND	ND	ND	ND	ND
pyrene		ND	ND	ND	ND	5600	ND	ND	ND
aniline		ND	ND	ND	ND	ND	ND	ND	ND
4-chloroaniline		ND	ND	ND	ND	ND	ND	ND	LT
dibenzofuran		ND	ND	ND	ND	ND	ND	ND	ND
2-methylnaphthalene		ND	ND	ND	ND	10000	ND	ND	ND
3-nitroaniline		ND	ND	ND	ND	ND	ND	ND	ND
benzene		ND	ND	LM	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

ND - Not Detected

LT - Present, but lower than the detection limit for low hazard analyses

LM - Present, but lower than the detection limit for medium hazard analyses

P - The sample could not be cleaned up sufficiently to yeild TCDD results

SAUGET Analytical Data
Site Q

SOIL SAMPLES
Organics (µg/kg)
Collected by Ecology & Environment, Inc. (7/83)

	Sample Number	B13A	B13B	B14A	B14B	B15A	B15B	B16A	B17A
	Sample Depth(ft)	17 0-19 0	19 0-21 0	17 0-19 0	19 0-21 0	22 0-24 0	24 0-26 0	22 0-24 0	22 0-24 0
Organics									
2, 3, 7, 8-TCDD		ND	ND	P	P	ND	ND	ND	ND
2, 4, 6-trichlorophenol		20000	4600	ND	ND	800	1900	7700	6400
2-chlorophenol		2500	3800	ND	ND	600	1600	4600	100000
2, 4-dichlorophenol		9400	11000	460000	ND	ND	11000	27000	120000
2, 4-dimethylphenol		ND	LT	ND	ND	ND	ND	680	ND
4, 6-dinitro-2-methylphenol		LT	ND	ND	ND	ND	ND	ND	ND
pentachlorophenol		12000	44000	ND	16000	4200	12000	39000	28000
phenol		8900	15000	ND	ND	6000	13000	16000	50000
2-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND
4-methylphenol		920	1400	ND	16000	ND	1000	1900	9200
2, 4, 5-trichlorophenol		ND	ND	ND	ND	ND	ND	LT	ND
acenaphthene		ND	ND	ND	ND	ND	ND	ND	ND
1, 2, 4-trichlorobenzene		2400	3000	13000000	2000000	ND	ND	ND	ND
1, 2-dichlorobenzene		ND	ND	620000	55000	ND	ND	LT	ND
1, 4-dichlorobenzene		1300	2000	1200000	100000	ND	1600	4100	ND
fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND
isophorone		ND	ND	ND	14000	ND	ND	ND	ND
naphthalene		ND	LT	210000	20000	ND	720	2000	ND
nitrobenzene		ND	ND	ND	ND	ND	ND	ND	ND
N-nitrosodiphenylamine		ND	400	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate		ND	ND	1100000	220000	ND	ND	ND	4600
butyl benzyl phthalate		ND	ND	ND	LT	ND	LT	ND	ND
di-n-butyl phthalate		ND	LT	900000	49000	LT	3800	ND	ND
di-n-octyl phthalate		ND	LT	ND	ND	ND	ND	ND	ND
diethyl phthalate		ND	ND	ND	ND	ND	LT	ND	ND
benzo(a)anthracene		ND	ND	ND	ND	ND	ND	ND	ND
benzo(a)pyrene		LT	ND	ND	ND	ND	ND	ND	ND
benzo(b)fluoranthene		1300*	ND	ND	ND	ND	ND	ND	ND
benzo(k)fluoranthene		1300*	ND	ND	ND	ND	ND	ND	ND
chrysene		ND	ND	ND	ND	ND	ND	ND	ND
anthracene		ND	ND	ND	ND	ND	ND	ND	ND
benzo(ghi)perylene		880	ND	ND	ND	ND	ND	ND	ND
fluorene		ND	ND	ND	ND	ND	ND	ND	ND
phenanthrene		ND	ND	ND	ND	ND	ND	ND	ND
dibenzo(a,h)anthracene		LT	ND	ND	ND	ND	ND	ND	ND
indeno(1,2,3-cd)pyrene		LT	ND	ND	ND	ND	ND	ND	ND
pyrene		ND	ND	ND	ND	ND	ND	ND	ND
aniline		ND	ND	ND	ND	ND	ND	580	ND
4-chloroaniline		LT	2200	ND	ND	ND	ND	9600	ND
dibenzofuran		ND	ND	ND	ND	ND	ND	ND	ND
2-methylnaphthalene		ND	ND	ND	LT	ND	ND	ND	ND
3-nitroaniline		ND	ND	ND	ND	ND	ND	ND	ND
benzene		ND	ND	44000	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

ND - Not Detected

LT - Present, but lower than the detection limit for low hazard analyses

P - The sample could not be cleaned up sufficiently to yeild TCDD results

SAUGET Analytical Data
Site Q

SOIL SAMPLES
Organics (µg/kg)
Collected by Ecology & Environment, Inc. (7/83)

	Sample Number	B17B	B18A	B18B	BLANK 1	BLANK 2	Maximum
	Sample Depth(ft)	24 0-26 0	22 0-24 0	24 0-26 0	NA	NA	Concentration
Organics							
2, 3, 7, 8-TCDD		ND	ND	ND	ND	ND	3.31
2, 4, 6-trichlorophenol		ND	ND	ND	ND	ND	ND
2-chlorophenol		ND	ND	ND	ND	ND	ND
2, 4-dichlorophenol		ND	ND	ND	ND	ND	ND
2, 4-dimethylphenol		3800	ND	ND	ND	ND	72000
4, 6-dinitro-2-methylphenol		ND	ND	ND	ND	ND	ND
pentachlorophenol		ND	ND	ND	ND	ND	ND
phenol		ND	ND	ND	ND	ND	ND
2-methylphenol		ND	ND	ND	ND	ND	1400
4-methylphenol		ND	ND	ND	ND	ND	ND
2, 4, 5-trichlorophenol		ND	ND	ND	ND	ND	ND
acenaphthene		ND	ND	ND	ND	ND	2800
1, 2, 4-trichlorobenzene		ND	ND	ND	ND	ND	ND
1, 2-dichlorobenzene		ND	ND	ND	ND	ND	ND
1, 4-dichlorobenzene		550	ND	LT	ND	ND	1200000
fluoranthene		ND	ND	ND	ND	1000	1200
isophorone		ND	ND	ND	ND	ND	17000
naphthalene		ND	ND	ND	ND	ND	ND
nitrobenzene		ND	ND	ND	ND	ND	56000
N-nitrosodiphenylamine		ND	ND	ND	ND	ND	400
bis(2-ethylhexyl)phthalate		580	910	1400	LT	ND	1100000
butyl benzyl phthalate		ND	ND	ND	ND	ND	ND
di-n-butyl phthalate		ND	ND	LT	ND	ND	900000
di-n-octyl phthalate		ND	LT	ND	ND	ND	ND
diethyl phthalate		ND	ND	ND	ND	ND	840
benzo(a)anthracene		ND	520	ND	ND	600	600
benzo(a)pyrene		ND	ND	ND	ND	LT	ND
benzo(b)fluoranthene		ND	LT	ND	ND	LT	1000
benzo(k)fluoranthene		ND	LT	ND	ND	LT	1000
chrysene		ND	640	ND	ND	560	6400
anthracene		ND	ND	ND	ND	ND	400
benzo(ghi)perylene		ND	ND	ND	ND	ND	880
fluorene		ND	ND	ND	ND	ND	2000
phenanthrene		ND	ND	ND	ND	720	5200
dibenzo(a,h)anthracene		ND	ND	ND	ND	ND	ND
indeno(1,2,3-cd)pyrene		ND	ND	ND	ND	ND	ND
pyrene		ND	LT	ND	ND	800	5600
aniline		51000	1700	ND	ND	ND	51000
4-chloroaniline		ND	960	ND	ND	ND	9600
dibenzofuran		ND	ND	ND	ND	ND	3000
2-methylnaphthalene		ND	ND	ND	ND	ND	10000
3-nitroaniline		ND	ND	ND	ND	ND	4600
benzene		ND	ND	ND	ND	ND	44000

µg/kg - Micrograms per kilogram

ND - Not Detected

LT - Present, but lower than the detection limit for low hazard analyses

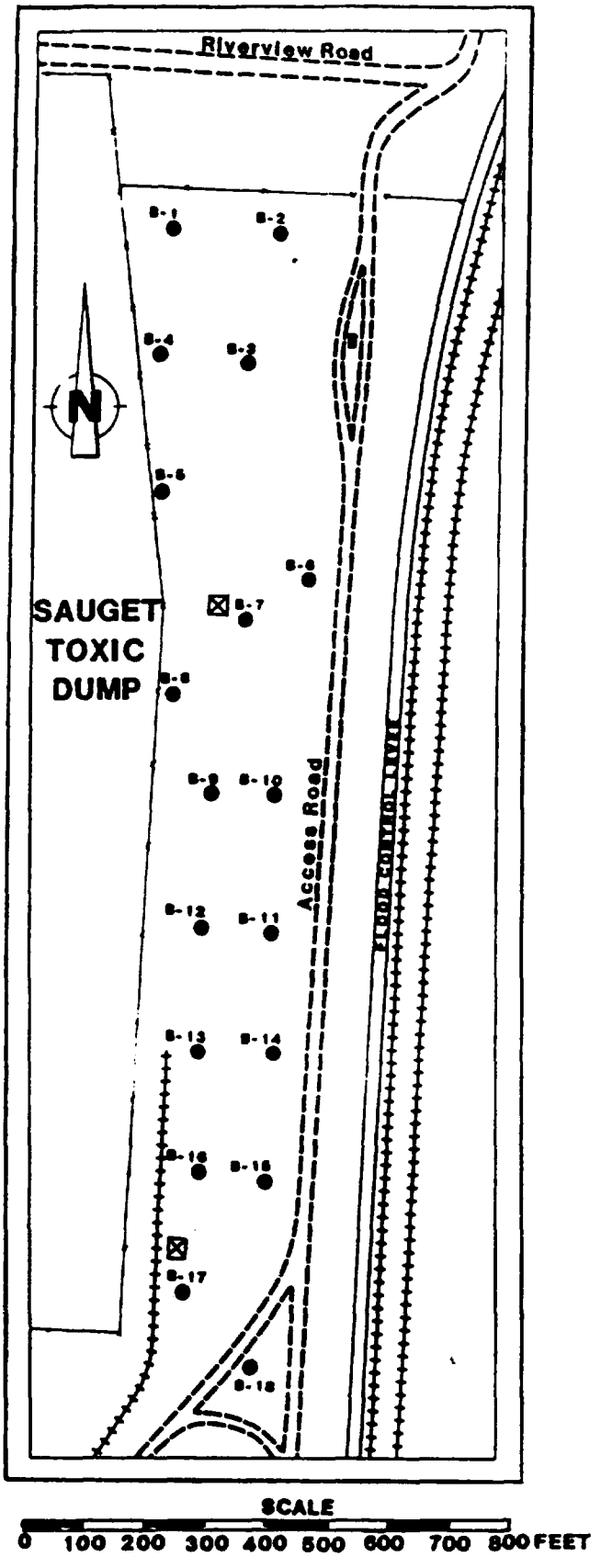


FIGURE Q-2
USEPA - FIT SUBSURFACE SOIL SAMPLING LOCATIONS AT SITE Q

LOCATION MAP - Borings B-1 through B-18

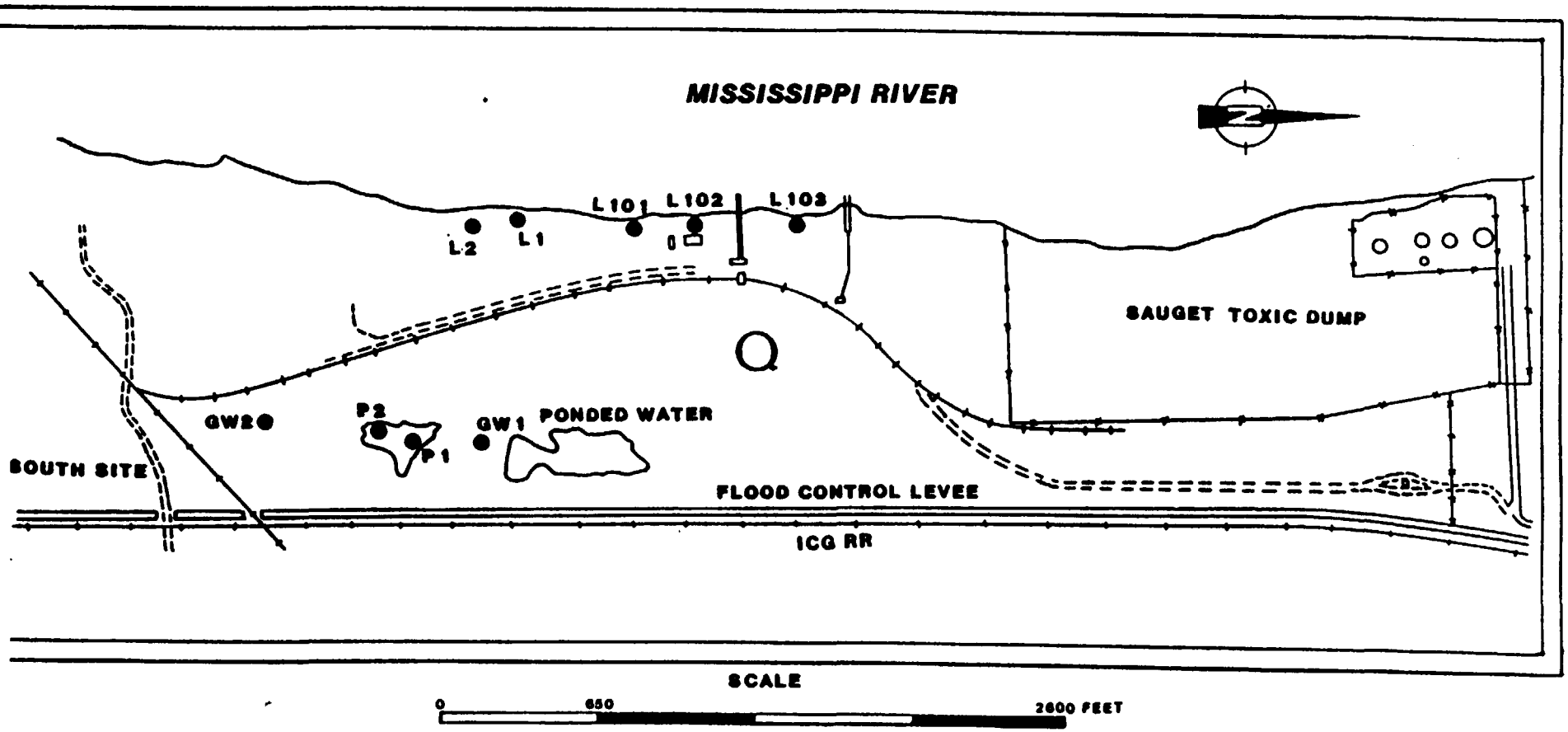
Source: "Description of Current Situation at the Dead Creek Project Sites", E&E, 1986

SAUGET Analytical Data
Site Q

SURFACE WATER, LEACHATE, GROUNDWATER SAMPLES
Total Metals and Misc.(mg/L unless otherwise noted)
Collected by IEPA

	Sample Number	P-1	L-1	GW-1	GW-2	P-2	P-3	Maximum
	Sample Type	Pond water	Leachate	Groundwater	Groundwater	Pond water	Pond water	Concentration
	Date Collected	10/17/72	10/17/72	1/17/73	1/17/73	4/10/73	4/26/73	Detected
Metals								
Calcium		80	56	310	137	250	280	310
Magnesium		8	26	57	205	42	44	205
Sodium		23	169	275	13	230	205	275
Potassium		6	30	10	4	85	70	85
Ammonia		0.19	21	NA	NA	32	36	36
Boron		7	6.5	NA	NA	2.6	2.8	7
Cadmium		ND	ND	0.02	ND	NA	0.02	0.02
Chromium (total)		ND	ND	ND	ND	NA	0.03	0.03
Copper		ND	0.01	ND	ND	0.02	ND	0.02
Iron		ND	46	ND	ND	60	67	67
Lead		ND	0.02	ND	ND	0.07	0.07	0.07
Manganese		ND	ND	ND	ND	6	6.5	6.5
Mercury (µg/L A28)		0.5	0.5	ND	ND	0.4	0.6	0.6
Nickel		ND	ND	ND	ND	0.3	0.2	0.3
Silver		ND	ND	0.01	ND	ND	ND	0.01
Zinc		ND	0.2	ND	0.1	4.2	5	5
Alkalinity		46	810	645	375	420	ND	810
Chloride		19	4	310	24	210	205	310
Nitrate		NA	NA	NA	NA	NA	ND	ND
Phosphate		NA	NA	NA	NA	3.7	5	5
Sulfate		230	18	325	25	350	270	350
Hardness		240	560	NA	NA	970	930	970
Phenols		NA	NA	0.02	ND	NA	NA	0.02

mg/L - Milligrams per liter
NA - Parameter not analyzed
ND - Not detected
µg/L - Micrograms per liter



LEGEND

GW1	IEPA GROUNDWATER SAMPLING LOCATION
P1	IEPA SURFACE WATER SAMPLING LOCATION
L1	IEPA LEACHATE SAMPLING LOCATION

FIGURE Q-1
DEAD CREEK SITE AREA Q WITH SAMPLING LOCATIONS

LOCATION MAP - Samples P-1, P-2, and P-3

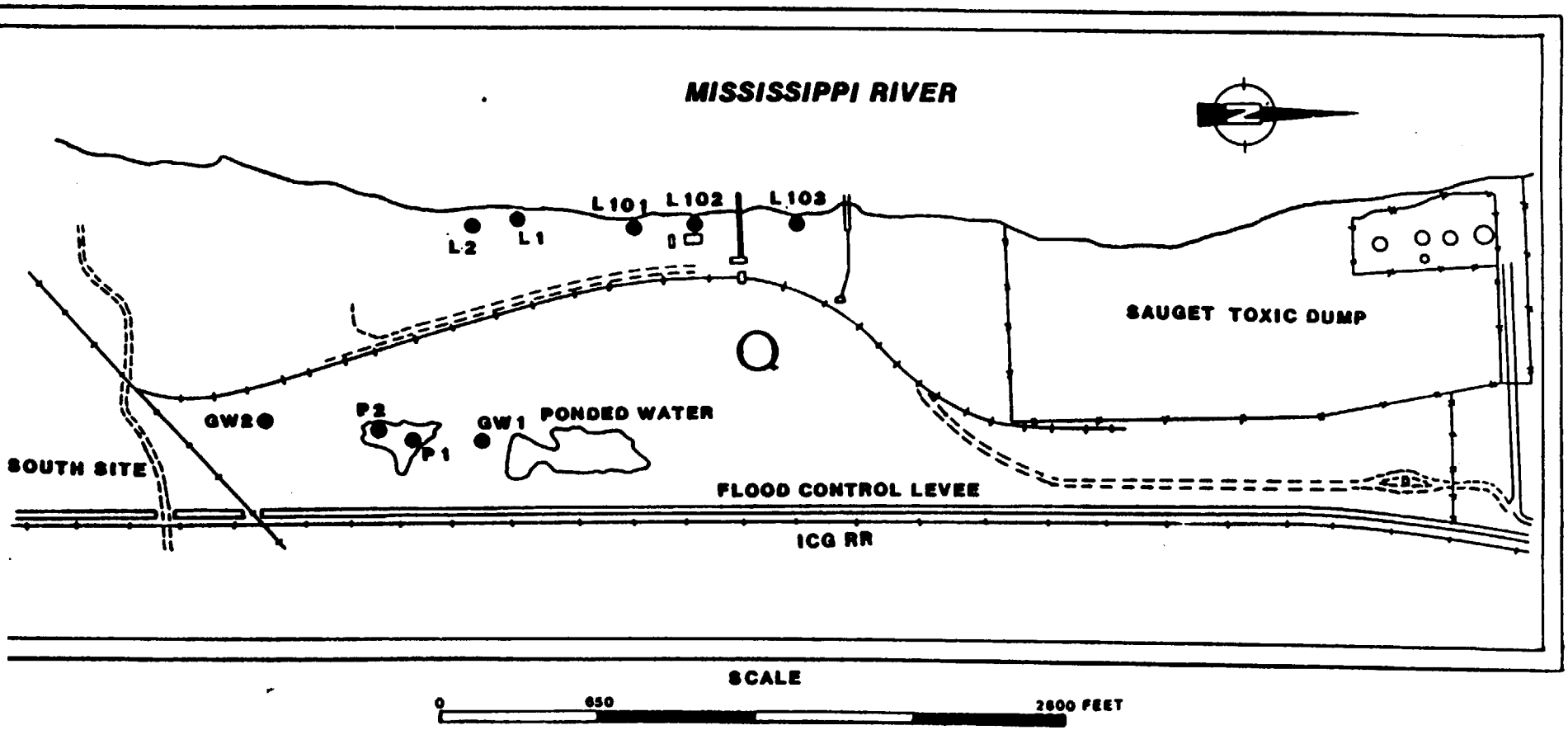
Source: 'Description of Current Situation at the Dead Creek Project Sites', E&E, 1986

SAUGET Analytical Data
Site Q

LEACHATE SAMPLES
Total Metals, PCB and Misc.(mg/L unless otherwise noted)
Collected by IEPA

	Sample Number	L-1	L-2	L101	L012	L103	Maximum
	Date Collected	10/28/81	10/28/81	9/29/83	9/29/83	9/29/83	Concentration
Metals, PCB and Misc.							**Detected**
Alkalinity		255	293	191	158	242	293
Ammonia		3.8	2.8	6.5	4	3.7	6.5
Arsenic		0.057	0.022	0.11	0.034	0.012	0.11
Barium		0.8	0.2	0.5	0.4	0.3	0.8
Boron		5.8	5.6	37.5	42	23	42
Cadmium		ND	ND	ND	ND	ND	ND
COD		445	35	87	94	71	445
Chloride		15	17	23	22	31	31
Chromium (total)		0.08	ND	0.03	0.01	ND	0.08
Copper		0.2	0.04	1.2	0.06	ND	1.2
Cyanide		ND	ND	ND	0.01	0.01	0.01
Hardness		1330	1220	1225	1360	1045	1360
Iron		207	17.5	86	36	6.4	207
Lead		0.26	ND	0.13	0.08	0.02	0.26
Magnesium		145	67	81	73	44.5	145
Manganese		7.7	34	6.7	6.8	2.7	34
Mercury		ND	ND	ND	ND	ND	ND
Nickel		0.3	ND	0.1	0.1	ND	0.3
Nitrate		0.24	0.4	0.21	6.1	1.8	6.1
Phosphorus		6.1	0.74	3.1	1.3	0.86	6.1
Potassium		16.5	9.5	13.4	13.5	17	17
R.O.E.		1980	1829	1880	2118	1563	2118
Silver		0.02	0.01	0.01	ND	ND	0.02
Sodium		55.7	53.3	56	70	51	70
Sulfate		1196	1059	1200	1350	900	1350
Zinc		1.2	0.2	0.3	0.2	ND	1.2
Phenol		0.005	0.005	ND	ND	ND	0.005
PCBs (µg/L)		0.7	1	0.5	ND	0.1	1
2,3-D (µg/L)		ND	ND	ND	ND	ND	ND

mg/L - Milligrams per liter
ND - Not detected.
µg/L - Micrograms per liter



LEGEND

GW1	IEPA GROUNDWATER SAMPLING LOCATION
P1	IEPA SURFACE WATER SAMPLING LOCATION
L1	IEPA LEACHATE SAMPLING LOCATION

FIGURE Q-1
DEAD CREEK SITE AREA Q WITH SAMPLING LOCATIONS

LOCATION MAP - Samples L-1, L-2, and L101 - L103

Source: "Description of Current Situation at the Dead Creek Project Sites", E&E, 1986

SAUGET Analytical Data
Site Q

SOIL/SEDIMENT SAMPLES
Metals (mg/kg)
Collected by START (1997)

Sample Number	Q201	Q202	Q203	Q204	Q205	Q206	Q207	Q208	Maximum
Metal									Concentration
Arsenic	6.9	9.4	4.7	32.0	4.8	3.4	7.3	0.19	32
Barium	191	232	135	969	128	70.6	169	416	969
Cadmium	0.15	4.4	1.2	20.8	5.0	3.1	0.67	130	130
Chromium (total)	10.3	15.9	11.0	125	304	13.3	17.4	3900	3900
Lead	28.7	92.4	128	2450	102	139	47.8	2300	2450
Mercury	0.18	1.6	0.08	0.42	0.15	0.28	0.16	12.2	12.2
Selenium	1.0	1.9	1.1	0.62	1.3	0.76	1.4	8.1	8.1
Silver	0.36	0.71	1.4	18.7	0.40	0.37	0.32	0.80	18.7

mg/kg - Milligrams per kilogram